



ANNUAL REPORT
OF THE
Department of Public Works
OF THE
PROVINCE OF ALBERTA
1952-53

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON:
PRINTED BY A. SHNITKA, QUEEN'S PRINTER FOR ALBERTA
1954

Edmonton, September 10, 1953

To His Honour,

J. J. BOWLEN,

Lieutenant Governor of the
Province of Alberta.

Sir,

The undersigned has the honour to submit herewith the
Report of the Department of Public Works for the year ended
March 31, 1953.

Respectfully submitted,

A. J. HOOKE,

Minister of Public Works.

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GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF PUBLIC WORKS

REPORT
OF THE
DEPUTY MINISTER OF PUBLIC WORKS
For the Fiscal Year ended March 31st, 1953

Hon. A. J. Hooke,
Minister of Public Works.

Sir:

I have the honour to submit herewith the report concerning the activities of the Department of Public Works for the fiscal year ended March 31st, 1953.

This Department had again a very busy year, the main feature being the completion of the New Administration Building with a floor space of 80,000 sq. ft. This building is now fully occupied with the removal of certain departments from the Old Administration Building as well as from various other buildings in the City.

A new Government Garage is nearing completion, also a new Engineering Building at the University Campus.

Work was commenced on a New Dormitory at the Provincial Auxiliary Hospital at Camrose. This new dormitory is of modern "Cottage" style and will have a capacity of 74 beds including dining and recreational areas.

A new Provincial Building was completed at Grande Prairie and officially opened.

The new Court House at Lethbridge was officially opened.

At the Provincial Mental Institute at Oliver an additional wing was added to the Tuberculosis Hospital as well as the Nurses Home. A new Administration Building was essentially completed.

Work was commenced on a new Provincial Building at Peace River.

Highway Maintenance Shops were built at Two Hills, Vegreville, Wainwright and Killam.

The Mechanical Branch carried out a number of changes in the boilers at the various institutions. Work was progressing on new boiler room and engine room equipment at Fort Saskatchewan Gaol. An addition was made to the sewage disposal plant at the Provincial Mental Institute at Oliver.

Installation of two Skinner Vertical Unaflo engines is being carried out at the Provincial Mental Hospital, Ponoka. These two engines will take care of the power load at this institution for some time to come.

A new steam generator is being installed at the Provincial Gaol, Lethbridge.

The work of the Boilers Branch was as heavy as in any previous year. Details for same will be found in the Report.

Respectfully submitted,

G. H. N. MONKMAN,
Deputy Minister.

BUILDINGS BRANCH

Report for the Fiscal Year ended March 31, 1953

The Buildings Branch of the Department of Public Works is responsible for the servicing and maintenance of all public buildings, and in addition prepares the design and supervises the construction of the new buildings. The following large maintenance items and new buildings formed the major part of the Buildings Branch projects:

Bowden

The Bowden Institution adjacent to the town of Bowden has seen extensive development in preparation for the opening of the permanent buildings. Staff facilities have been improved by the addition of four staff houses and two garages. The farm portion of the institution has had a piggery, chicken house and brooder house added to it. Root cellars have also been constructed. The contracts for water tower and storm drainage have also been issued. Laundry equipment and kitchen equipment have been ordered, and landscaping of building area has been started.

Brooks

The Provincial Horticultural Station Main Building was completed. In addition a Cook House and Staff Quarters Building has been added.

Calgary

A number of projects started in Calgary have been completed this fiscal year. The Shops Building at the Institute of Technology and Art has been completed and has been in use during the school term; as well as the Nurses Aid Training School. The Alberta Office Building and the Petroleum and Natural Gas Conservation Board Building were also completed and used. Considerable alteration has been done to the Central Liquor Store.

New buildings started include the Blood Transfusion Depot, Storage Shed, and a residence at the McKinnon Settlement.

Camrose

Provincial Auxiliary Hospital at Camrose during this year began a large program of expansion. Work has actually begun on a new dormitory and connecting tunnel, while plans are being prepared for a major increase in accommodation. The new dormitory is of modern "cottage" style design and will have a capacity of 74 beds and will also include dining and recreational areas.

Edmonton

A number of large projects were completed during this fiscal year. The New Administration Building was completed and the entire 80,000 square feet of office space occupied. In order to avoid confusion this building was named the "Administration Building" and the old building, in view of the departments it now houses, is called the Natural Resources Building.

At the Aberhart Memorial Sanatorium a root house was com-

menced which will be connected to the underground tunnel system to facilitate the transportation of supplies.

At the Legislative Buildings grounds, considerable activity is evident. New greenhouses have been erected, and a new Government garage building (which will also house the Architectural Branch) has been started.

University of Alberta: Work is continuing on the Engineering Building (to be opened in the fall of 1953) and plans have been finalized and tenders called for a new Agricultural Building on the north side of the campus.

The Cancer Diagnostic Clinic has undergone considerable renovation and enlargement in order to house the latest equipment, and special radiation rooms have been designed to make this unit one of the most modern in the treatment of cancer.

Fairview

The Agricultural School at Fairview has been enlarged and improved by a number of buildings, these including shops, granary, a ten stall garage, root cellar, and a fire fighting equipment shed. In addition, two more residences were erected and others are being planned.

Fort Saskatchewan

Work has progressed on the new Women's Cell Block, and this latest addition is now almost ready for occupancy. Renovation and enlargement of the power plant has also taken place. A farm equipment building and blacksmith shop has been completed.

Grande Prairie

The Provincial Building was fully occupied and officially opened during the fiscal year. A four-car garage was also completed.

Gunn

At this Welfare Centre a recreation hall was erected and the dining hall completed.

Keith

The Central Alberta Sanatorium has continued to be modernized and enlarged. A fire station has been added, as well as an addition to the Laundry Building. Two new staff residences have been completed as well as the addition to the Administration Building.

Lac La Biche

The Department erected an oil storage shed as well as an office and garage at this point.

Lethbridge

The New Court House in the City of Lethbridge was officially opened and full utilization commenced. At the Provincial Jail a milk pasteurization house and a fire hall were completed. In order to accommodate the increased staff, four more residences were commenced.

Olds

At the Olds Agricultural School three more modern staff residences were added to the campus.

Oliver

This year saw the completion of the additional wing to the Tuberculosis Hospital, as well as the Nurses Home. The Administration Building was essentially completed. This building, of stone, is designed for two-level operation, assuring maximum light and air, consistent with reasonable cost. New service buildings, including an incinerator, fire station, granaries, staff residences and a root house were also erected. A new engine room was erected for the power plant, without causing any interruption of existing services.

The Branch has also prepared preliminary drawings and plans for a new admission hospital for the institution. This will be a two storey steel frame building, with a brick and tile face, incorporating the most modern developments in mental treatment techniques.

At the Oliver Nursery a fresh water line was run from the water tower to the residence buildings.

Peace River

Work has commenced on the Provincial Building in Peace River. This building will house Provincial Government Departments in a modern, two storey brick and tile building, and is due to be completed in 1953.

Ponoka

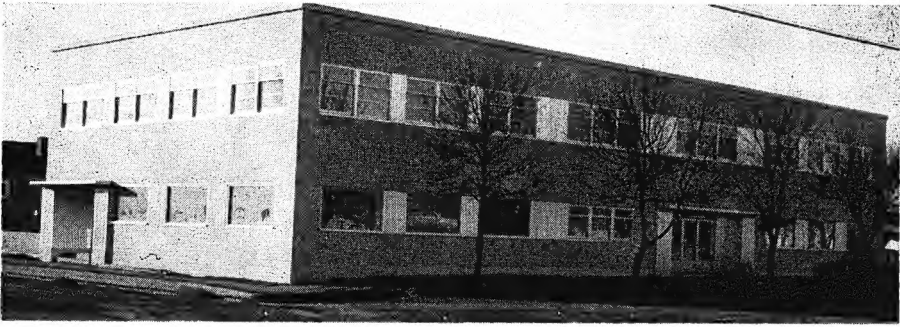
The Provincial Mental Hospital at Ponoka was also the recipient of a number of service buildings. An incinerator house, complete with sterilizing facilities was erected. A new dormitory of the "cottage" style was completed and another started. Extensions have been made to electrical vaults, boiler house, and a laundry building. A number of greenhouses have been rebuilt and a cannery building and work shop building have been completed.

Red Deer

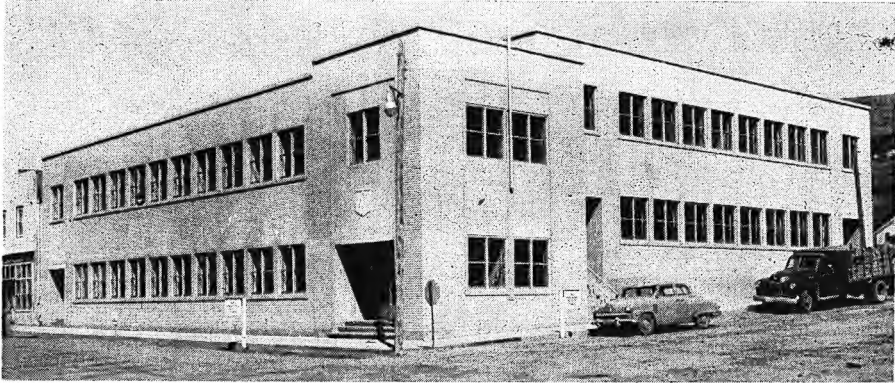
The Provincial Training School has continued its expansion and modernization with the addition of several specialized buildings. A school building was started with special design features to aid both teachers and students. Play areas and teaching space are all under supervision, and student comfort, especially with respect to fresh air and heating has received special attention. Two more dormitories of the same type which have proven successful in the past have also been started. Laundry addition and fire fighting station have also been included.

Other Centres

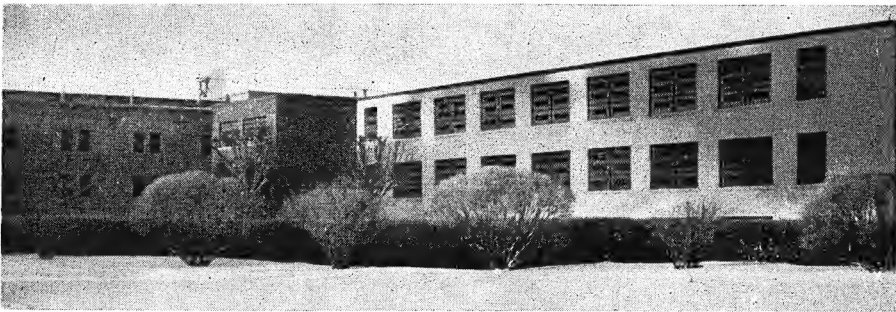
A series of highway maintenance shops have been erected at Two Hills, Vegreville, Wainwright and Killam. Storage facilities and snow plow sheds have been built at both Manchester and Scona Yards. Various treasury branches and liquor stores have been erected and existing ones renovated.



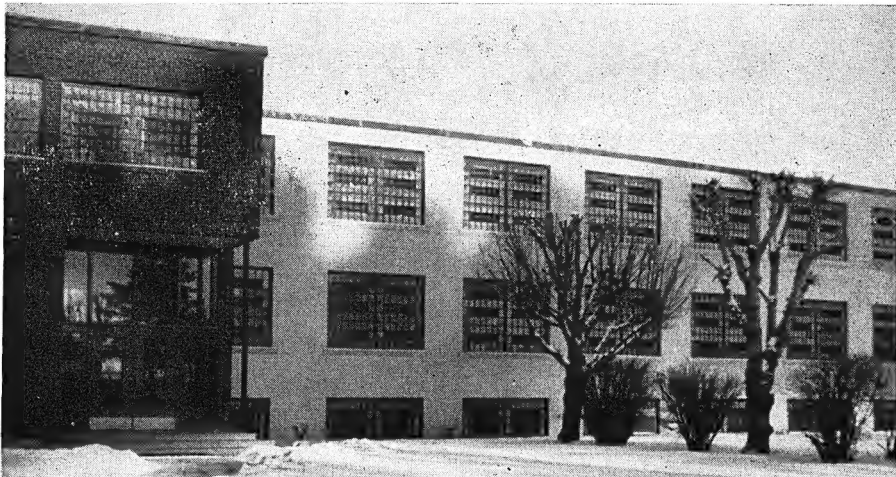
Provincial Building, Drumheller



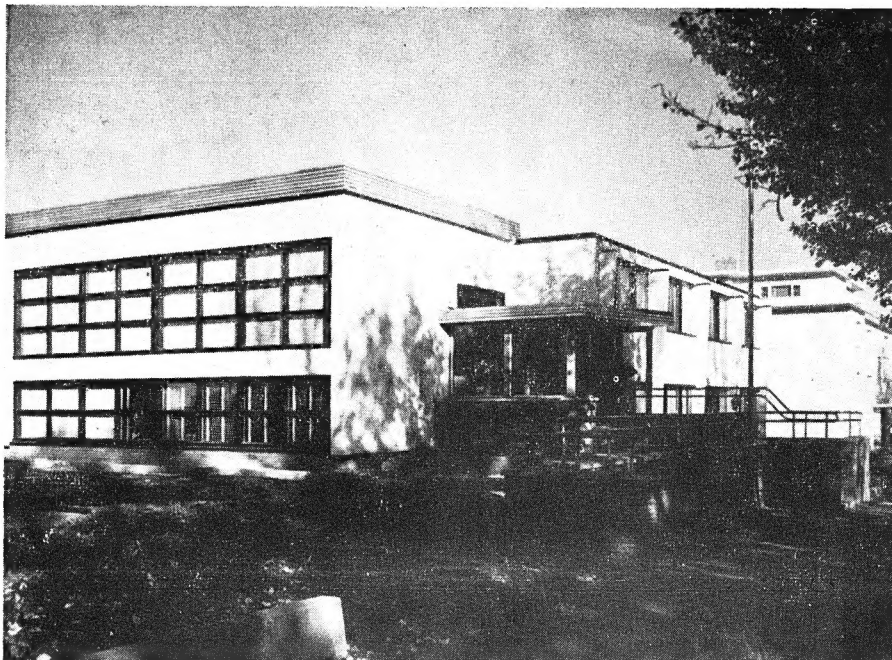
Provincial Building, Peace River



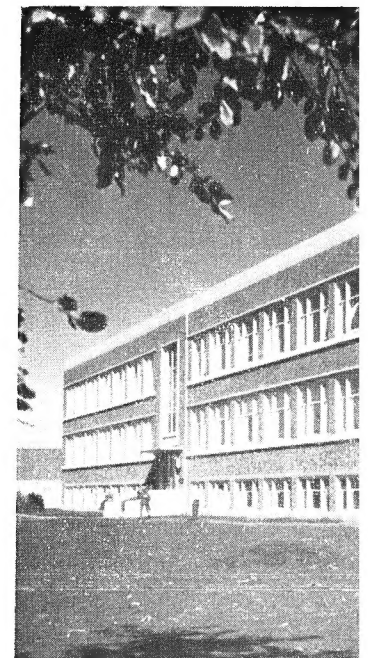
Women's Cell Block, Fort Saskatchewan



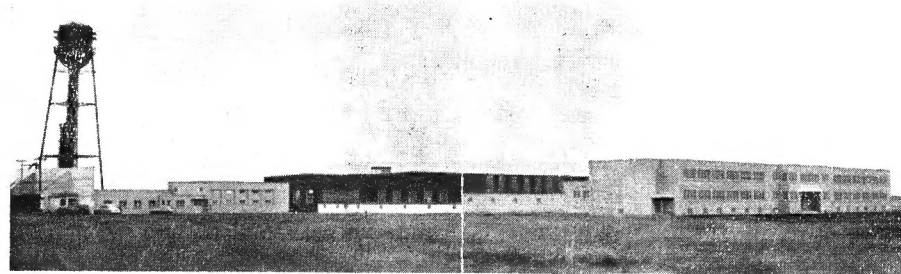
Main Entrance, Women's Cell Block, Fort Saskatchewan



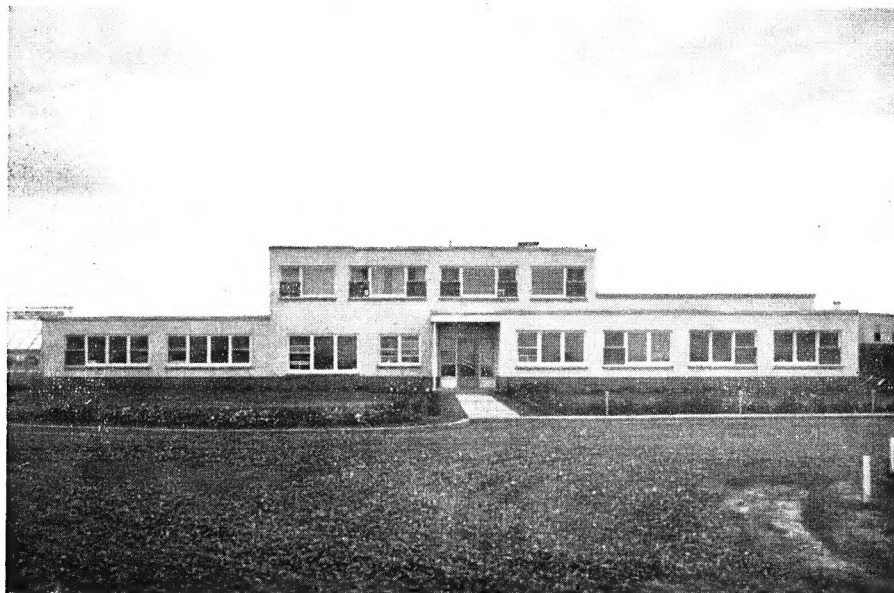
Blood Transfusion Sub-Depot, Calgary



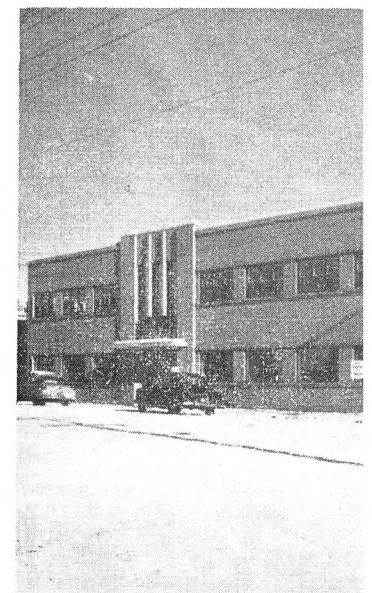
Engineering Build



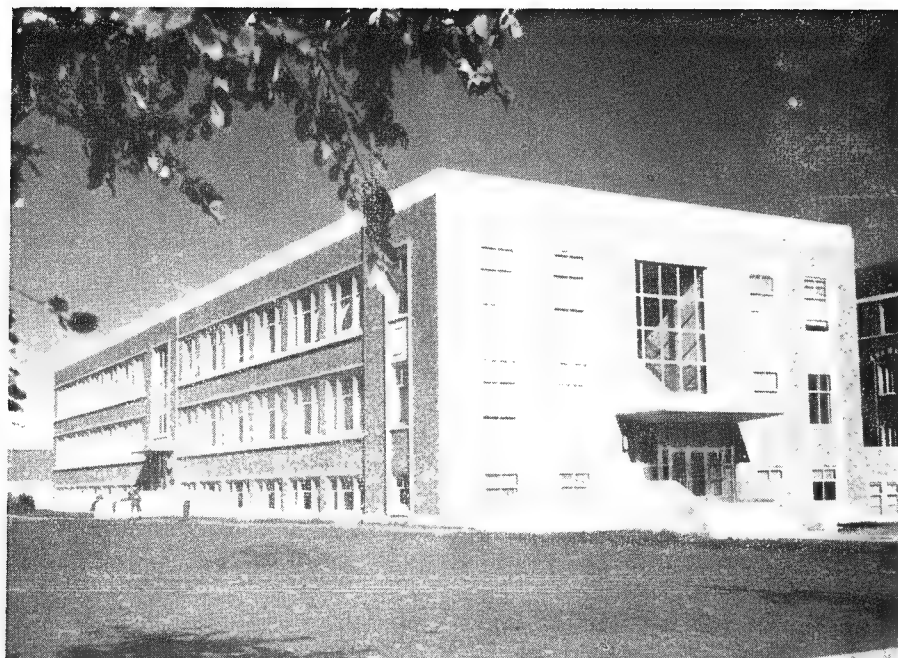
Bowden Institution, Bowden



Brooks Horticulture Station, Brooks



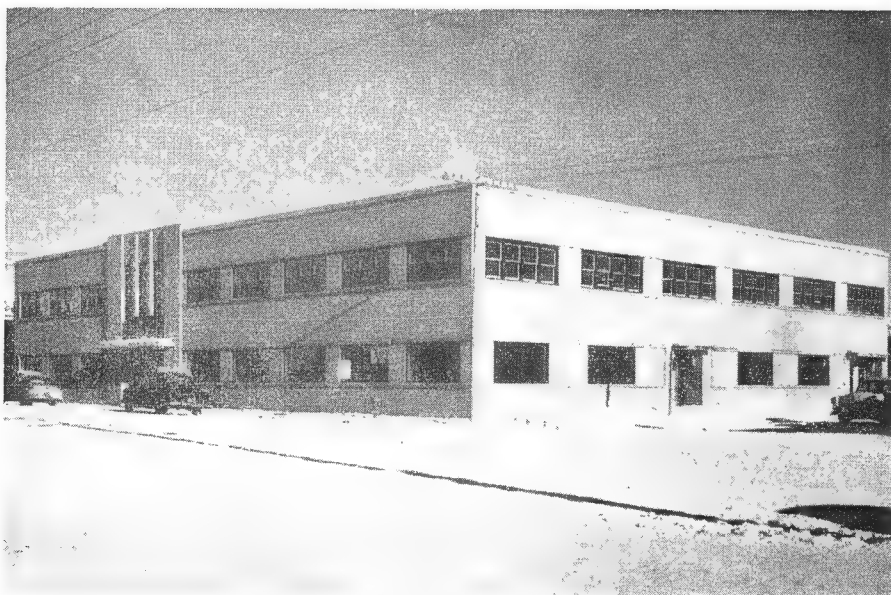
Provinci



Engineering Building, University of Alberta, Edmonton



Bowden Institution, Bowden



Provincial Building, Grande Prairie



Admission Ward, Provincial Mental Institute, Oliver



Single Men's Hostel, Edmonton



Court House, Drumheller

BUILDINGS AND MAINTENANCE BRANCH**Expenditure for 1952-53**

INCOME EXPENDITURE

708	\$ 112,137.94
709	1,449,846.53
710	330,039.49

CAPITAL EXPENDITURE

756	618,497.77
759	7,411,940.18

S.W. 11/52/53

Construction of Civil Defence Building, Edmonton.... 10,915.51

MECHANICAL BRANCH**Report for the Fiscal Year ended March 31, 1953****F. E. Coe, Superintendent**

This report deals with the activities of the following subdivisions of the Mechanical Branch for 1952-53:

1. The maintenance and operation of power plants and services of the eight largest institutions.
2. The administration of The Steam Boilers Act.

Power Plants and Institution Maintenance

Again the Power Plant statistics show that the output from the Government power plants has increased over previous years. There is a noticeable increase in gas used with a corresponding increase in power and other services given the various institutions and buildings.

Work is still progressing on the installation of the new boiler room and engine room equipment in the new plant at the Fort Saskatchewan Gaol. We hope to have a part of the plant in operation by the 1953-54 winter operating season.

The change of voltage and installation of new switchboard equipment at the Provincial Institute of Technology, Calgary has necessitated the rewinding of the existing 150 KVA Canadian General Electric generating unit at that plant.

The addition to the Sewage Disposal Plant at the Provincial Mental Institute, Oliver should be ready for operation before the end of the 1953-54 fiscal year.

The installation of the new 1,000 KVA Skinner Vertical Unaflo engine and switchboard in the Parliament Buildings Power Plant, Edmonton is being rapidly completed and it should be ready for operation early in the coming summer.

Two 625 KVA Skinner Vertical Unaflo engines were purchased for the Provincial Mental Hospital Power Plant, Ponoka and are now being installed. This plant generates both A.C. and D.C. power and is gradually being converted to A.C. completely. These two engines will take care of the power load at this institution for some time to come.

Owing to the recent rapid building program at the Provincial Training School, Red Deer it was necessary to establish an order for a Foster Wheeler 10,500 pound per hour steam generator for this plant. This generator should be delivered and installed during the latter part of 1953.

The new Belliss and Morcom 156 KVA engine generator set which was purchased some time ago for the Central Alberta Sanatorium Power Plant, Keith, was delivered and put in operation during the past year. The equipment for the new machine shop at the same plant has been purchased and will be installed as soon as arrangements are completed.

Owing to the age and the condition of the brickwork, settings and the capacity of the two old boilers at the Provincial Gaol Power Plant, Lethbridge, it was decided to replace them with one new John Inglis 5,000 pound per hour steam generator and transfer the Vickers-Keeler steam generator from the old Provincial Training School Plant, Red Deer. The new boiler will be installed and put on the line prior to the 1953-54 winter heating season. The Vickers-Keeler steam generator from the old Red Deer Plant will be transferred when satisfactory arrangements can be made for its reinstallation in Lethbridge.

During the year this Department was unfortunate in losing the services of Mr. Vernon Pearson, Mechanical Superintendent, who retired after many years of loyal and invaluable service to the Province.

PROVINCIAL GOVERNMENT POWER PLANT STATISTICS

FOR YEAR ENDED MARCH 31, 1953

(F. E. Coe, Mechanical Superintendent)

LOCATION	FUEL		WATER		ELECTRICITY			MECHANICAL REFRIGERATION Expenditure for Maintenance and O-eration plus Salary
	Coal (Tons)	Gas (Cubic feet)	Pumped from Local Sources (Imperial Gallon)	Purchased	Generated	Purchased	Tons	
Parliament Buildings and Administration Buildings, Edmonton		83,682,000		5,809,912	875,984	1,376,320		\$ 59,104.53
Institute of Technology, Calgary		29,909,000		5,185,000	15,500	451,400		31,042.64
Ponoka Mental Hospital, Ponoka		195,754,000	67,101,000		1,890,950		5,475	152,282.84
Provincial Gaol, Fort Saskatchewan	3,916	47,121,000	16,960,000		349,860		450	43,440.50
Lethbridge Provincial Gaol, Provincial Mental Institute, Oliver	6	188,941,000	8,727,000	20,431,560	123,766			37,628.18
Central Alberta Sanatorium, Keith		66,740,000	23,249,600		472,480			119,443.43
Provincial Training School, Red Deer	114	60,066,000		16,331,743	449,190			56,402.52
	4,036	672,213,000	116,037,600	106,168,215	6,109,230	1,827,720	5,925	45,227.59
								\$544,572.23

Total Coal Used	4,036	Tons
Total Gas Used	672,213,000	Cubic Feet
Total Water Used	222,205,815	Imperial Gallons
Total Electricity Used	7,936,950	Kilowatt Hours
Total Refrigeration	5,925	Tons

FOR YEAR ENDED MARCH 31, 1953
(F. E. Coe, Mechanical Superintendent)

[illegible]

THE BOILERS ACT

Herewith is the annual report on the administration of "The Boilers Act" during the fiscal year of 1952-53.

There were no reports of the failure of any pressure vessel registered under the Act while being operated in accordance with the Act. However, a number of accidents have taken place in which pressure vessels have been damaged or destroyed and operating personnel injured or killed. In all cases, these accidents can be attributed to improper operation or external causes not under the jurisdiction of the Act. The more serious of these accidents are as follows:

On April 7th a steam driven, self-propelled crane, including boiler (A)30027, owned by Dominion Bridge Co., toppled over while in operation at the Canadian Chemical Co. construction project. The operator, Mr. Joseph P. Oleschuk was killed and the boiler slightly damaged. The cause of this accident was unskilled use of the crane.

On November 13th, 1952 Mr. A. Hopp and Mr. R. Russel received severe burns while drilling on a connection between Propane Tanks A1.45 and A1.46, located on a supply truck owned by Sturdy Propane Company. The work was being carried out by the Timsen Machinery and Engineering Shop, Red Deer. This accident was the result of carelessness in not taking proper precautions before working on the tanks.

On November 21st, 1952 a severe furnace oil explosion in boiler (A)23705 located at Griesback Barracks, Edmonton, damaged the tubes of this boiler. This accident was caused by faulty operation and the boiler has now been repaired and is back in service.

On January 28th, 1953 a serious fire and explosion at Gas and Oil Refineries Limited, Hartell, resulted in the death of Mr. William Pearson and severe burns to four other refinery employees. Three pressure vessels were destroyed in this fire and three others damaged. Failure of a pipe line carrying a light petroleum product, due to frost, was the initial cause of this fire and the resultant explosion.

In addition to the above, inspectors from this Department investigated and reported on: Five gas and one pulverized fuel furnace explosions, four boilers damaged by low water, one by frost, one from scale and two from unknown causes, four fires adjacent to pressure vessels and two cases of the failure or parts of sterilizers or autoclaves. There were no injuries involved in these accidents. In every case the trouble was a result of faulty operation and the pressure vessels concerned have been replaced or satisfactorily repaired.

Five people were prosecuted for illegal operation under this Act and convictions obtained in each case.

During the year this Department was unfortunate to lose the services of Mr. V. Pearson, Chief Boiler Inspector and Mr. R. Scott, Assistant Chief Boiler Inspector, who retired after many years of exceptionally valuable service to the Department and the Province.

Mr. A. J. Munro was promoted to the position of Acting Chief Boiler Inspector and takes over his new duties April 1st, 1953. Two new inspectors were appointed to the staff during the year, viz., Mr. A. Baker, Assistant Boiler Inspector and Mr. R. W. Keir, Inspector of Unfired Pressure Vessels.

The accelerated industrial expansion throughout the Province, especially in the petroleum and chemical industries, has greatly increased the number and variety of pressure vessels to be inspected and registered under this Act. During 1952-53 there were 15,166 pressure vessels, excluding liquid petroleum gas containers, registered under section 7 of the Act. All these pressure vessels are subject to reinspection at least every two years. As many pressure vessels are now being manufactured locally, the inspection staff are having to spend an increasingly large portion of their time on shop inspections. The result being that it has been impossible to re-inspect all pressure vessels normally subject to annual inspection.

Among the major industrial developments using large numbers of pressure vessels are:

Canadian Chemical Company, Petro-Chemical Project in Clover Bar District.

Canadian Industries Limited, Polythene Plant near Edmonton.

Canadian Industries Limited, Explosives Plant, Calgary.

Sherritt-Gordon, Chemical Processing Plant, Fort Saskatchewan.

Expansion of City of Edmonton Power Plant.

To keep up with this industrial expansion, many of the established local concerns have completed extensive alterations and expansion on their premises.

The progressive increase in the use of pressure vessels throughout the Province has required a record total of 10,440 inspection visits to inspect a total of 9,420 vessels. Of these, 4,035 were new pressure vessels, 1,952 of which are subject to annual inspection.

A total of 2,000 Engineer's and Welder's Certificates were issued, of which 876 were Temporary Certificates. Of the 1,203 engineers or welders tested, 1,124 were qualified while 79 candidates failed the tests. At the end of this year there were 1,693 Stationary Engineers and 143 Pressure Welders registered with this Department.

In addition to the inspections and examinations noted, the inspection staff, surveyed 1,442 new or changed designs to insure compliance with the Act and governing Codes, 1,201 of these were

pressure vessel designs or changes, the remainder being piping, fittings, etc.

The above data indicates that each inspector, in addition to other work, made an average of 629.3 inspection visits per year, or 2.4 visits per working day. As each visit usually entails the complete examination of a pressure vessel, it is obvious that if the number of pressure vessels requiring annual inspection continues to increase, a corresponding increase in staff will be necessary. It must be stressed that over the past few years the Department has lost the services of five First Class boiler inspectors. These men have not been replaced and with the industrial expansion now in evidence, this clearly indicates the immediate need of additional inspectors.

The attached table summarizes the inspections carried on during the year together with that of the previous year.

SUMMARY OF WORK AND REVENUE, 1952-53 AND 1951-52

TYPE OF BOILER OR PRESSURE VESSEL INSPECTED	New	Total 1952-53	Total 1951-52
Liquified Petroleum Gas Containers	2060	2060	1358
Horizontal Return Tubular	2	212	219
Horizontal Furnace	15	81	69
Water Tube	9	231	249
Locomotive Type	5	907	805
Vertical	14	158	159
Receivers	684	2727	2587
Heat Exchangers	225	481	497
Oil Stills	0	3	7
Steam Processors	24	105	96
Steel Heating	101	603	511
Cast Iron	75	433	386
Miscellaneous	798	1419	1172
Total	4012	9420	8125
TOTAL REGISTERED PRESSURE VESSELS			15,166

CONDITION OF PRESSURE VESSELS INSPECTED

	1952-53	1951-52
Good	7263	6181
Fair	1996	1810
Poor	111	90
Condemned	17	10
Scrapped	33	34
Total	9420	8125
Certificates Issued	8426	7207
Number of Inspection Visits	10440	9081
Number of Special Inspections	81	90

NUMBER AND CLASS OF ENGINEER'S CERTIFICATES

ISSUED		
First Class	5	3
Second Class, 750 H.P.	2	6
Second Class, 500 H.P.	22	24
Third Class	77	58
Special	3	7
Traction Final	3	5
Fireman's Final	45	102
Provisional	696	608
Temporary	876	990
Welder's Certificates	268	106
Total	1997	1909
Total Registered Engineers	1693	—
Total Registered Welders	143	—
Number of Designs Surveyed	1442	884

REVENUE

	1952-53	1951-52
Surveying and Registering Designs	\$11,147.03	\$ 6,954.00
Pressure Vessel Registration	74,303.38	63,357.25
Engineer's Registrations	2,737.00	2,913.00
Engineer's Certificates	9,971.00	9,687.00
Special Inspection Fees	1,833.10	2,191.50
	<u>\$99,991.51</u>	<u>\$85,102.75</u>